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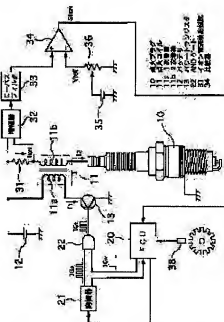
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(54) SPARK IGNITION DEVICE

(57)Abstract:

PROBLEM TO BE SOLVED: To ensure ignition of a fuel supplied into a combustion chamber in an internal combustion engine while restricting discharge energy to be supplied to a spark plug.

SOLUTION: Discharge energy is supplied to the spark plug 10 several times during one combustion cycle. If a flame is formed due to the generation of discharge spark in a spark gap of the spark plug 10 at a discharge stop timing when the discharge energy is not supplied, abundant combustion ions exist. Then, a current flows from a battery 12 via an ion current detecting resistance 31 to the spark plug 10, resulting in an ion current signal to be output from a comparator 34. If the ion current signal is detected, the fuel is defined to be ignited to cause the stop of a high voltage at the side of a secondary winding 11b of a spark coil 11. Therefore, in the expansion stroke of the internal combustion engine, ignition of the fuel supplied into the combustion chamber in the internal combustion engine is ensured, while restricting discharge energy to be supplied to the spark plug 10.



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